

CLAIMS

What is claimed is:

1. An apparatus comprising:
a body having:
first and second faces;
an inboard surface bounding a central aperture;
an outboard perimeter;
an array of bolt holes between the first and second faces;
a channel inboard of the bolt holes; and
first and second ports in communication with the channel.
2. The apparatus of claim 1 wherein:
the channel is in the first face.
3. The apparatus of claim 2 further comprising:
a sealing ring residing in an outboard portion of the channel.
4. The apparatus of claim 1 wherein:
the first and second ports are formed in the perimeter.
5. The apparatus of claim 1 wherein:
the body is a unitary metal member;
the channel is a full annulus; and
a divider member is positioned in the channel between the first and second ports.
6. The apparatus of claim 1 wherein:
the body is a unitary metal member; and
the channel has:
a full annulus outboard portion; and
a partial annulus second portion of at least 300° of arc.
7. The apparatus of claim 1 wherein:
there are at least 8 such bolt holes.

8. The apparatus of claim 1 in combination with a flow of liquid through the channel and entering the flange through the first port and exiting the flange through the second port.
9. The apparatus of claim 1 in combination with:
 - a mating flange having a first face in facing relation to the first face of the body; and
 - a plurality of bolts, each of which extends through an associated one of the bolt holes.
10. The apparatus of claim 1 in combination with:
 - a furnace having a furnace wall separating a furnace exterior from a furnace interior and having a wall aperture;
 - a soot blower outlet assembly positioned to direct a soot blower gas flow through the wall aperture;
 - a soot blower gas source;
 - one or more soot blower gas conduit portions along a soot blower gas flowpath between the soot blower gas source and the soot blower outlet assembly, the apparatus also being positioned along the soot blower gas flowpath.
11. The combination of claim 10 wherein:
 - the soot blower outlet assembly extends at least partially through the furnace wall.
12. A method for operating a detonative cleaning apparatus for cleaning a surface within a vessel, the method comprising:
 - repeatedly:
 - charging a conduit with a charge; and
 - detonating the charge, resulting in the direction of a shockwave from an outlet portion of the conduit to impact the surface; and
 - locally cooling a portion of the conduit upstream of the outlet portion.
13. The method of claim 12 wherein:
 - the cooling is provided via a cooling fluid;
 - the cooling is provided at no less than 0.1m upstream of an outlet end of the conduit and at no less than 2m downstream of an upstream end of the conduit; and
 - the cooling fluid has an essentially constant flow between discharges of the apparatus.

14. The method of claim 12 wherein:
 - the cooling is provided via a cooling fluid; and
 - the cooling fluid flows along a flowpath nonintersecting with a conduit discharge flowpath.